

MODEL ASP-15C/E/H

AUTO SET UP PROBE OPERATION MANUAL

• Specifications are subject to change without notice

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1. OUTLINE

Automatic adjustment of the 15 Series color monitors can be performed quickly and precisely by the use of this device.

2. FEATURES

(1) Automatic adjustment of HUE (NTSC only) and CHROMA

The HUE (NTSC only) and CHROMA can be automatically adjusted at the same time as the white balance by external input of a color bar signal. In addition, up to three types of exclusive user data can be stored in the memory of the probe and automatic adjustment to this data is easy.

(2) Automatic adjustment of white balance

Even without input of an external signal, automatic adjustment to the factory set color temperature (6500°K) is possible by use of the window signal generated within the probe. In addition, up to three types of exclusive user color temperatures can be stored in the memory of the probe and automatic adjustment to these color temperatures is easy.

3. SPECIFICATIONS

3-1. OVERALL SPECIFICATIONS

- (1) Power supply..... Supplied from monitor
DC \pm 12V, DC + 5V
- (2) Ambient temperature..... 0 to + 40°C
- (3) Weight 570g
- (4) Memory
 - Memory type
 - ROM..... 16K byte programmable
ROM
 - RAM..... 2K byte static RAM
 - Battery backed up
 - Memory retention period... 10 years
 - Battery..... Lithium battery
BR2330-IHF

3-2. AUTO-SETUP

(1) Setup error

- HUE..... Less than 1°
(NTSC only)
- CHROMA..... Less than \pm 1%

(2) Repetition accuracy

- Chroma error..... Within \pm 0.002 (CIE
chroma points x, y)
- Luminance error..... Within \pm 2%
(of full-scale)

- (3) Setup time Approx. 50 seconds

(4) REF AUTO SETUP function (automatic adjustment to factory set values)

Ⓐ Color temperature

Version	Monitor Used	Set Color Temperature
ASP-15E	TM14/20-15RP	6500° K
ASP-15C	TM14/20-15RH	6500° K
ASP-15H	TM14/20-15RH	9300° K

Ⓑ Luminance value.....35ft-L (100 IRE input)

(5) USER AUTO SETUP function (automatic adjustment to user set values)

When stored data is 35ft-L

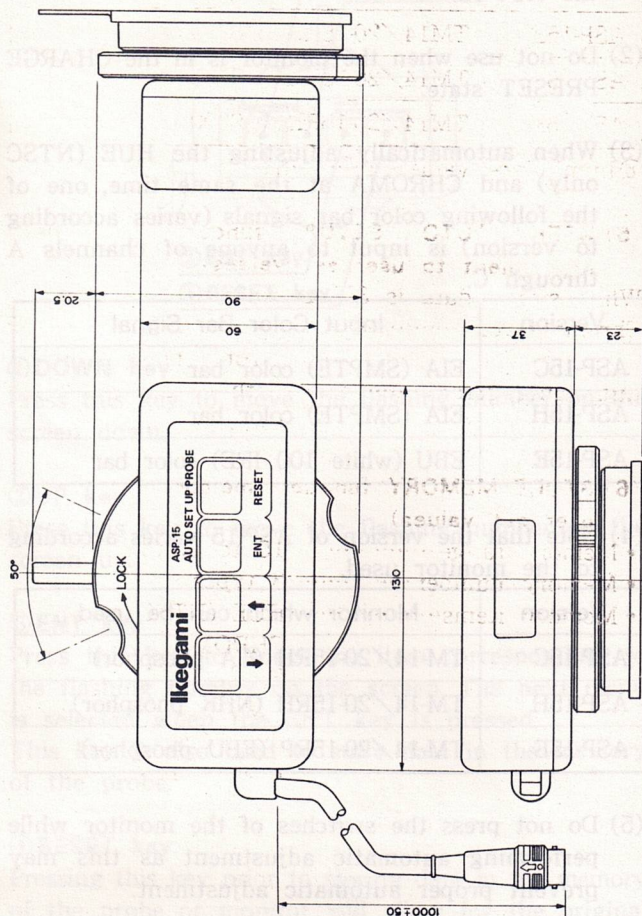
Chroma error.....Within ± 0.005 (CIE chroma points x, y)

Luminance error.....Within $\pm 8\%$ (of full-scale)

(6) STORE MEMORY function (memory function for user set values)

- Memory range.....15 to 50ft-L
- Memory number.....3 types
- Memory items.....HUE (NTSC only)
CHROMA
BRIGHTNESS
CONTRAST
G, B, GAIN
R, G, B, BACKGROUND

External View



ASP-15
AUTO SET UP PROBE
EXTERNAL VIEW
K3-904798

4. PRECAUTIONS ON USE

- (1) If the RCT-15 Remote Controller (option) is being used, operate this probe after turning off the remote controller by pressing the **END** key of the RCT-15.
- (2) Do not use when the monitor is in the CHARGE PRESET state.
- (3) When automatically adjusting the HUE (NTSC only) and CHROMA at the same time, one of the following color bar signals (varies according to version) is input to anyone of channels A through C.

Version	Input Color Bar Signal
ASP-15C	EIA (SMPTE) color bar
ASP-15H	EIA (SMPTE) color bar
ASP-15E	EBU (white 100 IRE) color bar

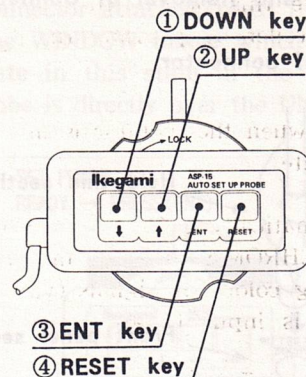
- (4) Note that the version of ASP-15 varies according to the monitor used.

Version	Monitor which can be used
ASP-15C	TM-14/20-15RH (CA phosphor)
ASP-15H	TM-14/20-15RH (NHK phosphor)
ASP-15E	TM-14/20-15RP (EBU phosphor)

- (5) Do not press the switches of the monitor while performing automatic adjustment as this may prevent proper automatic adjustment.

5. OPERATION DESCRIPTION

5-1. Functions of Operation Section



① DOWN key

Press this key to move the flashing number on the screen down.

② UP key

Press this key to move the flashing number on the screen up.

③ ENT key

Press this key to select the item corresponding to the flashing number on the screen. The next menu is selected when the ENT key is pressed.

This key is also used to store data in the memory of the probe.

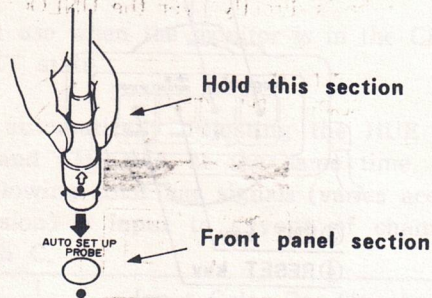
④ RESET key

Pressing this key prior to storing data in the memory of the probe or monitor will allow for the original state to be selected.

5-2. Attachment and Removal of Probe and Connector

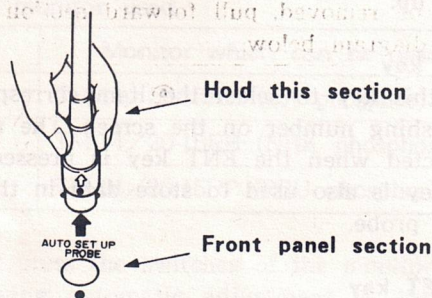
(1) Attachment and Removal of Connector

Ⓐ Attachment of connector



Hold the connector as shown in the diagram above and attach by lining up the round mark inside the front panel drawer with the round mark on the connector.

Ⓑ Removal of connector

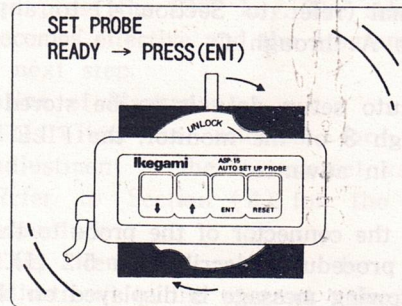


Hold the connector as shown in the diagram above and remove by pulling up. Do not attempt to remove by holding any section other than that specified.

(2) Attachment and Removal of Probe

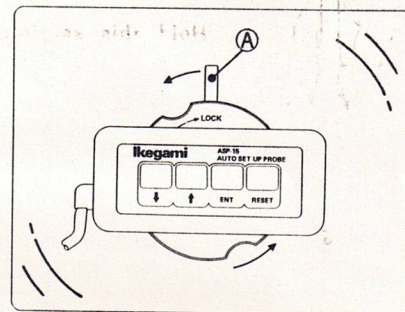
Ⓐ Attachment of probe

With the connector attached, press the probe against center of the WINDOW image which appears on the screen. Rotate in this state in the LOCK direction until the probe is directly over the UNLOCK character indication.



Ⓑ Removal of probe

Rotate the probe in the UNLOCK direction until it is directly over the LOCK character indication and remove. If the probe is attached to the CRT and cannot be removed, pull forward section Ⓐ shown in the diagram below.



5-3. Operation

There is no screen indication of HUE for ASP-15E.

(1) Preparations

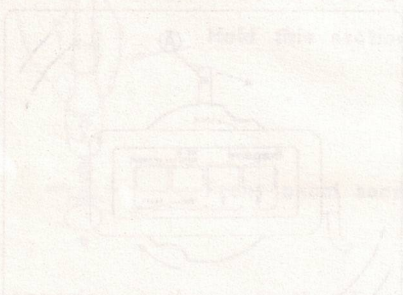
① When performing HUE (NTSC only) and CHROMA automatic adjustment, input the prescribed color bar signal (refer to Section 4) to any one of channels A through C.

② When auto setup data is to be stored in FILE 01 through 3 of the monitor, the FILE switch is selected in advance.

③ Connect the connector of the probe to the monitor by the procedure described in 5-2 (1).
The following message is displayed on the screen.

SET PROBE
READY → PRESS(ENT)

④ Attach the probe to the monitor by the procedure described in 5-2 (1).



⑤ After attaching, press the ENT key.
The following message is displayed on the screen.

- SELECT OPERATION -
1. REF. AUTO SET UP
2. USER AUTO SET UP
3. STORE MEMORY

Select the desired operation with the UP/DOWN key and press the ENT key. The selected item then becomes effective and the program advances to the next step.

< Explanation of Messages >

- 1 This item is selected for automatic adjustment to the factory set values. Refer to Section (2) for the operation procedure.
- 2 This item is selected for automatic adjustment to the user set values stored in the memory of the probe. Refer to Section (3) for the operation procedure.
- 3 This item is selected for storing user data in the memory of the probe. Refer to Section (4) for the operation procedure.

(2) REF. AUTO SETUP Operation

- ① Select the first item as shown in the diagram below.

- SELECT OPERATION -
1. REF. AUTO SET UP
2. USER AUTO SET UP
3. STORE MEMORY

- ② Press the ENT key.

The following message is displayed on the screen. The state shown in Section (1) ③ is restored when the RESET key is pressed in this state.

- REF. AUTO SET UP -
1. WITH HUE, CHROMA
2. W/O HUE, CHROMA

< Explanation of Messages >

- 1 This item is selected when automatic adjustment of HUE (NTSC only) and CHROMA at the same time as the factory set color temperature is desired.
- 2 This item is selected when only automatic adjustment of the factory set, color temperature is desired.
- ③ Select either 1 or 2 and press the ENT key.

The following message is displayed on the screen.

《When 1 is selected》

* REF. AUTO SET UP
WITH HUE, CHROMA *
START → PRESS(ENT)
ESC → PRESS(RESET)

《When 2 is selected》

* REF. AUTO SET UP
W/O HUE, CHROMA *
START → PRESS(ENT)
ESC → PRESS(RESET)

< Explanation of Message >

Press the ENT key to start automatic adjustment or the RESET key to select a different item. The state shown in Section (1) ③ is restored when the RESET key is pressed.

- ④ Automatic adjustment is started when the ENT key is pressed.

If the RESET key is pressed during automatic adjustment, the data being adjusted is cleared and the data which existed prior to automatic adjustment is restored. The state shown in Section (1) ③ is also restored.

Refer to the table below for the meaning of the various messages displayed during automatic adjustment.

Table 5-3-1. Automatic Adjustment Messages

Message	Meaning
- CALIBRATION -	Zeroing of the probe is being performed.
- HUE, CHROMA -	Automatic adjustment of HUE (NTSC only) and CHROMA is being performed.
- BRIGHTNESS -	Automatic adjustment of BRIGHTNESS is being performed.
- CONTRAST -	Automatic adjustment of CONTRAST is being performed.
- GAIN -	G and B screens are switched and automatic adjustment of GAIN for each is being performed.
- BACKGROUND -	R, G, and B screens are switched and automatic adjustment of BACKGROUND for each is being performed.

⑤ The following message is displayed when automatic adjustment is completed.

- STORE
→ PRESS(ENT)
- CLEAR
→ PRESS(RESET)

< Explanation of Message >

Press the ENT key to store the data for automatic adjustment to factory set value in the memory of the monitor, or the RESET key to clear the automatic adjustment data and restore the data which existed prior to automatic adjustment.

The state shown in Section (1) ③ is also restored when the RESET key is pressed.

⑥ The following message is displayed on the screen when the ENT key is pressed.

JOB COMPLETED
REMOVE
CONNECTOR & PORBE

As the memory operation is completed at this point, remove the connector and probe as instructed in 5-2 (1) and (2).

(3) USER AUTO SETUP Operation

① Select the second item as shown in the diagram below.

- SELECT OPERATION -
- 1 . REF. AUTO SET UP
- 2 . USER AUTO SET UP
- 3 . STORE MEMORY

② Press the ENT key. The following message is displayed on the screen. The state shown in Section (1) ③ is restored when the RESET key is pressed in this state.

- USER AUTO SET UP -
- 1 . MEMORY-1(14)
- 2 . MEMORY-2(14)
- 3 . MEMORY-3(20)

< Explanation of Messages >

- 1This item is selected when automatic adjustment to the user set values stored in MEMORY-1 by STORE MEMORY is desired.
- 2This item is selected when automatic adjustment to the user set values stored in MEMORY-2 by STORE MEMORY is desired.
- 3This item is selected when automatic adjustment to the user set values stored in MEMORY-3 by STORE MEMORY is desired.

“(14)” and “(20)” displayed on the right side of the screen indicate the monitor type when data was stored in memory by STORE MEMORY.

(14).....Indicated when data for TM14-15 type monitor is stored in the memory.

(20).....Indicated when data for TM20-15 type monitor is stored in the memory.

Automatic adjustment with higher accuracy is possible when automatic adjustment is performed between monitors of the same type. This indication serves as a guideline to make this easier.

- ③ Select the desired user set values for automatic adjustment (from MEMORY-1, 2 or 3) and press the ENT key.

The following message is displayed on the screen
The state shown in Section (1) ③ is restored if the RESET key is pressed in this state.

```

- USER AUTO SET UP -
1. WITH HUE, CHROMA
2. W/O HUE, CHROMA
  
```

< Explanation of Messages >

- 1This item is selected when automatic adjustment of HUE (NTSC only) and CHROMA at the same time as the user set color temperature is desired.
- 2This item is selected when only automatic adjustment of the user set color temperature is desired.

- ④ Select either 1 or 2 and press the ENT key.
The following message is displayed on the screen.

(When 1 is selected)

(When 2 is selected)

```

* USER AUTO SET UP
  WITH HUE, CHROMA *
START → PRESS(ENT)
ESC   → PRESS(RESET)
  
```

```

* USER AUTO SET UP
  W/O HUE, CHROMA *
START → PRESS(ENT)
ESC   → PRESS(RESET)
  
```

< Explanation of Message >

Press the ENT key to start automatic adjustment or the RESET key to select a different item.
The state shown in Section (1) ③ is restored when the RESET key is pressed.

- ⑤ Automatic adjustment is started when the ENT key is pressed.

If the RESET key is pressed during automatic adjustment, the data being adjusted is cleared and the data which existed prior to automatic adjustment is restored. The state shown in Section (1) ③ is also restored.

Refer to Table 5-3-1. for the various messages displayed during automatic adjustment.

- ⑥ The following message is displayed when automatic adjustment is completed.

```

• STORE
  → PRESS(ENT)
• CLEAR
  → PRESS(RESET)
  
```

< Explanation of Message >

Press the ENT key to store the data for automatic adjustment to user set values in the memory of the monitor, or the RESET key to clear the automatic adjustment data and restore the data which existed prior to automatic adjustment.

The state shown in Section (1) ③ is also restored when the RESET key is pressed.

- ⑦ The following message is displayed on the screen when the ENT key is pressed.

```

JOB COMPLETED
REMOVE
CONNECTOR & PORBE
  
```

As the memory operation is completed at this point, remove the connector and probe as instructed in 5-2 (1) and (2).

(4) STORE MEMORY Operation

- ① Select the third item as shown in the diagram below.

```

- SELECT OPERATION -
1. REF. AUTO SET UP
2. USER AUTO SET UP
3. STORE MEMORY
  
```

② Press the ENT key

The following message is displayed on the screen.
The state shown in Section (1) ③ is restored when the RESET key is pressed in this state.

```

- STORE MEMORY -
* MEMORY-1
2. MEMORY-2
3. MEMORY-3
    
```

< Explanation of Messages >

- 1This item is selected to store the user set values in MEMORY-1.
- 2This item is selected to store the user set values in MEMORY-2.
- 3This item is selected to store the user set values in MEMORY-3.

③ Select either MEMORY-1, 2, or 3 and press the ENT key. The following message is displayed on the screen.
The state shown in Section (1) ③ is restored when the RESET key is pressed in this state.

```

- STORE MEMORY -
* WITH HUE, CHROMA
2. W/O HUE, CHROMA
    
```

< Explanation of Messages >

- 1This item is selected when storage of the user set color temperature together with the HUE (NTSC only) and CHROMA in the probe memory is desired.
- 2This item is selected when storage of only the user set color temperature in the probe memory is desired.

④ Select either 1 or 2 and press the ENT key. The following message is displayed on the screen.

《When 1 is selected》

```

* STORE MEMORY
  WITH HUE, CHROMA *
START → PRESS(ENT)
ESC   → PRESS(RESET)
    
```

《When 2 is selected》

```

* STORE MEMORY
  W/O HUE, CHROMA *
START → PRESS(ENT)
ESC   → PRESS(RESET)
    
```

< Explanation of Messages >

Press the ENT key to start measurement of the user set data or the RESET key to select a different item. The state shown in Section (1) ③ is restored when the RESET key is pressed.

⑤ Measurement of the user set data is started when ENT key is pressed.
If the RESET key is pressed during measurement, the data being measured is cleared and the data which existed prior to measurement is restored. The state shown in Section (1) ③ is also restored. Refer to the table below for the meaning of the various messages displayed during measurement.

Table 5-3-2. Messages Displayed During Measurement

Message	Meaning
- CALIBRATION -	Data with luminance as zero being measured.
- HUE, CHROMA -	HUE (NTSC only) and CHROMA data being measured.
- BRIGHTNESS -	BRIGHTNESS data being measured.
- CONTRAST -	Automatic adjustment of CONTRAST is being performed.
- GAIN -	G and B screens are switched and GAIN data for each being measured.
- BACKGROUND -	R, G, and B screens are switched and BACKGROUND data for each being measured.

- ⑥ The following message is displayed when measurement of user set data is completed.

• STORE
→ PRESS(ENT)
• CLEAR
→ PRESS(RESET)

< Explanation of Message >

Press the ENT key to store the measured user set data in the probe, or the RESET key to clear the measured data and not store in the memory.

The state shown in Section (1) ③ is also restored when the RESET key is pressed.

- ⑦ The following message is displayed on the screen when the ENT key is pressed.

JOB COMPLETED
REMOVE
CONNECTOR & PORBE

As the memory operation is completed at this point, remove the connector and probe as instructed in 5-2.(1) and (2).

6. ERROR MESSAGES

(1) ERROR!
CHECK INPUT SIGNAL

Meaning Check input signal

Cause Displayed when there is no color bars in input signal for HUE (NTSC only) and CHROMA automatic adjustment or measurement, or when proper color bar signal is not being input.

Countermeasures Input proper color bar signal specified in Section 4 (3).

(2) ERROR!
CHECK PROBE SETTING

Meaning Check that the probe is mounted in proper position.

Cause Displayed when probe is not properly mounted in position where WINDOW signal appears.

Countermeasures Remount the probe at the center of the WINDOW signal.

(3) ERROR!
TOO LIGHT

Meaning Measurement not possible as too light.

Cause Displayed when luminance is too high when STORE MEMORY is performed.

Countermeasures Lower the BRIGHTNESS or CONTRAST so that the luminance is less than 50 ft-L.

(4) **ERROR!
TOO DARK**

Meaning Measurement not possible as too dark.

Cause Displayed when luminance is too low when STORE MEMORY is performed.

Cause Raise the BRIGHTNESS or CONTRAST so that the luminance is at least 15 ft-L.

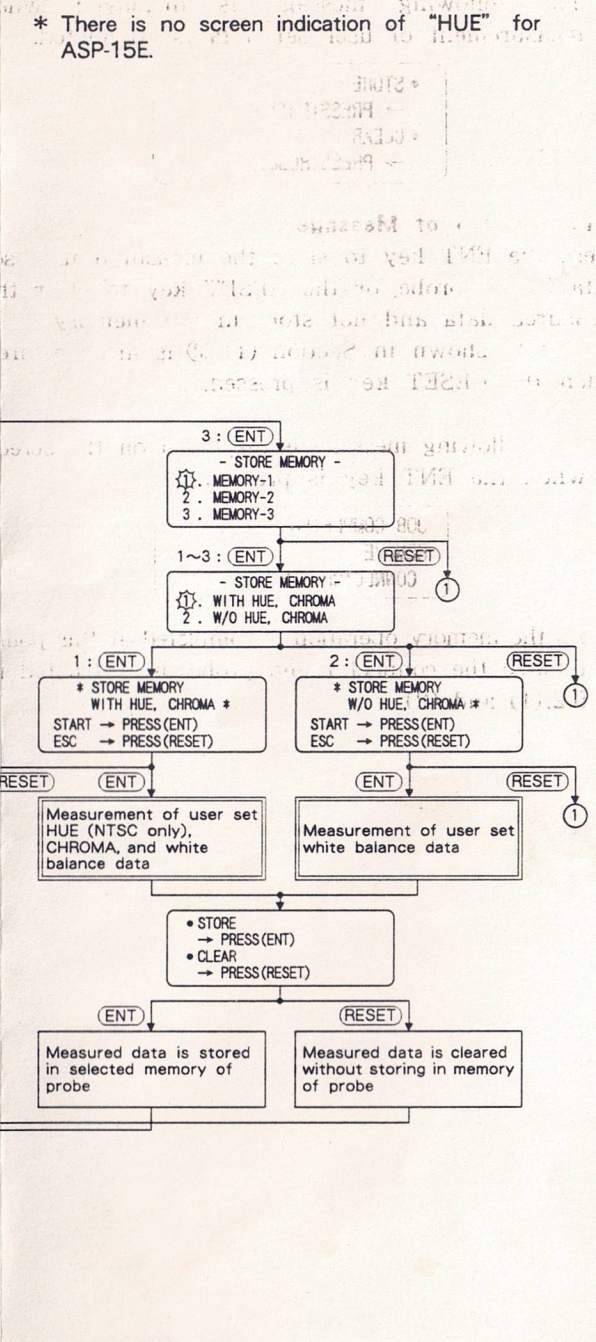
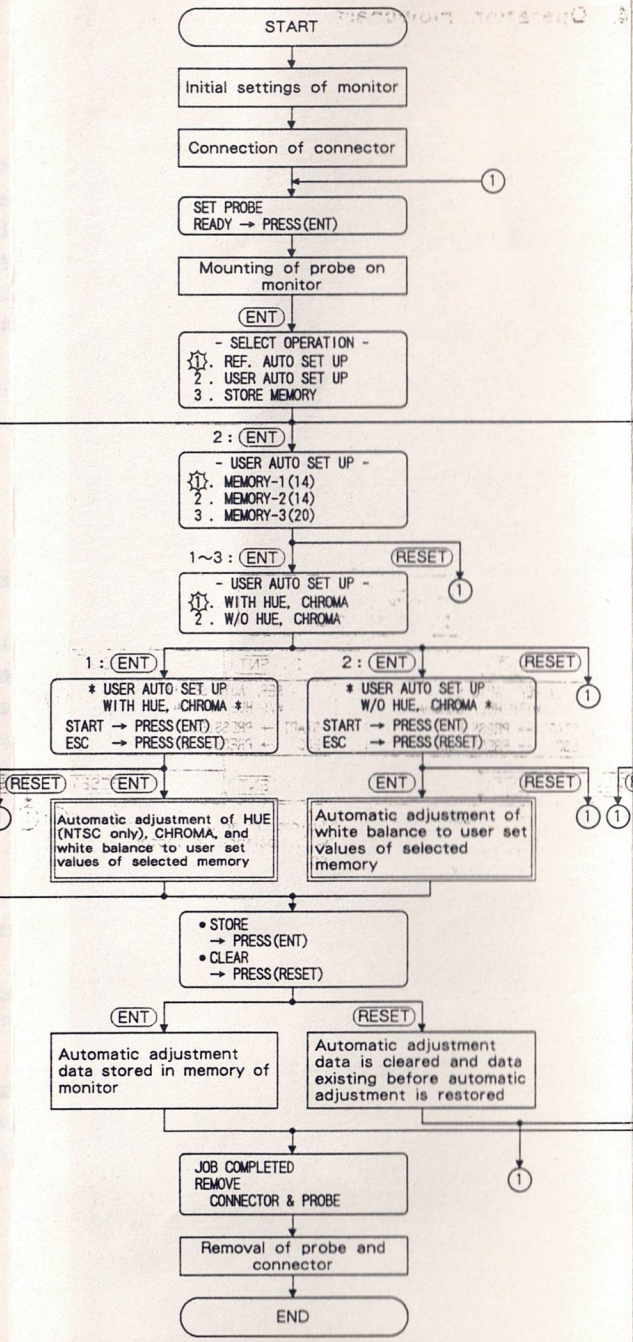
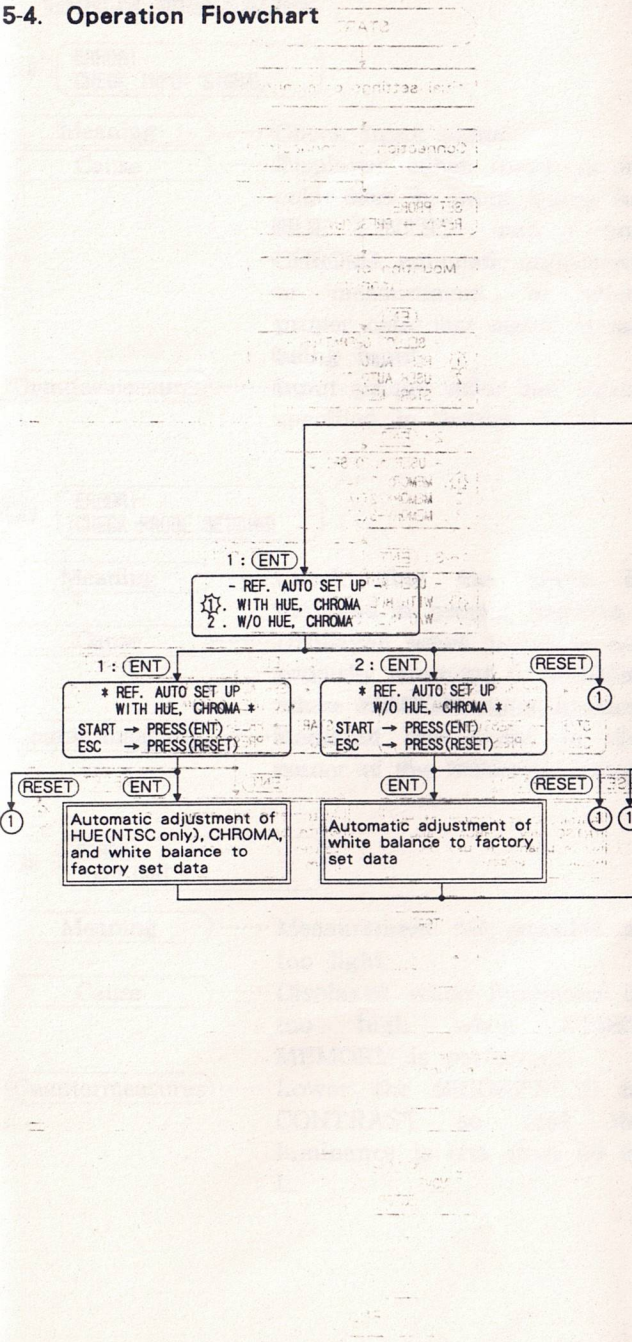
(5) **CHANGE BATTERY**

Meaning Replace the battery.

Cause Displayed when the level of the battery for backing up the memory begins to drop.

Cause Replace the battery.
Refer to the ASP-15 Service Manual (option) for the replacement procedure.

5-4. Operation Flowchart



* There is no screen indication of "HUE" for ASP-15E.